REMARKS/ARGUMENTS

Claims 6-8, 10-12, 38-41, and 49-69 are active in the present application.

Support for the amendment to Claim 48 is found on page 7, lines 2-5 and Claim 8 (which is now cancelled). Support for Claims 49-56 is found in Claim 39. Support for Claims 57-69 is found on page 7, lines 14-22.

No new matter is believed to have been added by these amendments.

Applicants thank Examiner Saunders for the helpful discussion granted to the Applicants' undersigned representative on March 25, 2004. During this discussion, amending the claims to more clearly define the invention was discussed. The amendment submitted in Claim 38 is reflective of that discussion, whereby the lineage committed human cells are defined as being differentiated to at least a point where they are programmed to develop ONLY into a specific type of cell. In other words, the lineage committed human cells are not progenitor cells, stem cells, or other type of totipotent, pluripotent, or multipotent cell. Examples of the lineage committed human cells are provided in Claims 57-69 and listed on page 7, lines 14-22. Further, the method of Claim 38 has also been amended to more clearly define the culture conditions from Claim 8.

The rejections of Claims 6-12, 38-42 and 44-48 under 35 U.S.C. § 112, second paragraph and 35 U.S.C. § 112, first paragraph are addressed by amendment as noted above.

The rejection of Claim 42 under 35 U.S.C. § 112, first paragraph is obviated by the cancellation of this claim.

The rejection of Claims 8, 10-12 and 38-40 under 35 U.S.C. § 102(b) over Emerson et al (U.S. Patent No. 5,437,994) is traversed.

Emerson et al describe culturing human bone marrow stromal cells by a method where a liquid culture medium is replaced or perfused at a specified rate (see col. 4, lines 39 through col. 5, line 9 and col. 7, lines 60-64). The human bone marrow stromal cells employed in Emerson are not lineage committed cells as defined in the present claims, i.e., "differentiated to at least a point where they are programmed to develop into ONLY a specific type of cell." Bone marrow stromal cells are known to be multipotent or cells that can develop into many different types of cells, i.e., progenitor or stem cells, which is supported by the general knowledge concerning bone marrow stromal cells (see Prockop DJ. Marrow stromal cells as stem cells for nonhematopoietic tissues. *Science* 1997 Apr 4;276(5309):71-4—a copy was provided to the Patent Office with the February 2003 filing). As noted, *supra*, multipotent cells are excluded from the pending claims. Accordingly, Applicants request withdrawal of the rejection over Emerson et al.

For these same reasons, Applicants also request that the rejection of Claims 8, 10-12, 38-39 and 42 under 35 U.S.C. § 102(b) over Emerson et al (U.S. 5,437,994) be withdrawn as well.

The rejection of Claims 8, 10, 12 and 38-40 under 35 U.S.C. § 102(b) over Caldwell et al is also traversed.

Caldwell et al similarly describe culturing bone marrow stromal cells to detect GM-CSF secretion (see page 350, column 1). As noted above in the discussion of Emerson et

al, bone marrow stromal cells are NOT lineage committed human cells as in the present claims. Therefore, withdrawal of the rejection over Caldwell is also requested.

The rejection of Claims 6, 10-12, 38, 39, 41, and 44-45 under 35 U.S.C. § 102(b) over Freedman et al is also traversed. Claim 8, which was not rejected here has been incorporated into Claim 38. As Freedman et al does not describe culture medium replacement at rate of from 50% to 100% daily replacement for a cell density of from $1x10^4$ to $1x10^7$ cells per ml of culture, Applicants request that the rejection over Freedman et al be withdrawn.

The rejection of Claims 8, 10-12, 38-39, and 42 under 35 U.S.C. § 102(e) over Emerson et al (U.S. 5,605,822; U.S. 5,635,386; U.S. 5,646,043; U.S. 5,670,147; or U.S. 6,326,198—"The Emerson patents") is also traversed.

As duly noted by the Examiner on page 7 of the Office Action, the Emerson patents describe culturing human hematopoietic progenitor cells. The Emerson patents do not, however, describe culturing lineage committed human cells which are programmed to develop ONLY into a specific type of cell. As noted above, such lineage committed cells are not progenitor cells. Accordingly, withdrawal of this ground of rejection is requested.

The rejection of Claims 10, 12, 38-39 and 44 under 35 U.S.C. § 103(a) over Schneider et al in view of Kuauda et al is respectfully traversed.

If the Examiner requires further clarification on this or any other issue in this application he is invited to contact the Applicants' undersigned representative to resolve the matter expediently.

Claim 8, which was not rejected here has been incorporated into Claim 38. As Schneider et al combined with Kuauda et al do not describe culture medium replacement at rate of from 50% to 100% daily replacement for a cell density of from $1x10^4$ to $1x10^7$ cells per ml of culture, Applicants request that the rejection over Schneider et al in view of Kuauda et al be withdrawn.

Applicants submit the present application is now ready for allowance. Early notification of such allowance is earnestly solicited.

Respectfully submitted,

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